(d) either essentially simultaneously with said deposition or subsequently thereto consolidating said deposit of amorphous particles into a non-porous body;

the improvement comprising utilizing as said silicon-containing compound in vapor form, a halide-free polymethylcyclosiloxane, whereby no halide-containing vapors are emitted during the making of said non-porous body of high purity fused silica glass.

40. A method according to claim 39 wherein said polymethylcyclosiloxane is selected from the group consisting of octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, hexamethylcyclotrisiloxane, and mixtures thereof.

41. A method according to claim 39 wherein said gas stream is comprised of an inert gas.

42. A method according to claim 41 wherein said inert gas is nitrogen.

43. In a method for making a non-porous body of high purity fused silica glass doped with at least one oxide dopant comprising the steps of:

(a) producing a gas stream containing a silicon-containing compound in vapor form capable of being converted through thermal decomposition with oxidation or flame hydrolysis to $SiO_2$ and a compound in vapor form capable of being converted through oxidation or flame hydrolysis to at least one member of the group consisting of $P_2O_5$ and a metal oxide which has a metallic component selected from Group IA, IB, IIA, IIB, IIIA, IIIB, IVA, IVB, VA, and the rare earth series of the Periodic Table;

(b) passing said gas stream into the flame of a combustion burner to form amorphous particles of fused $SiO_2$ doped with an oxide dopant;

(c) depositing said amorphous particles onto a support; and

(d) either essentially simultaneously with said deposition or subsequently thereto consolidating said deposit of amorphous particles into a non-porous body; the improvement comprising utilizing as said silicon-containing compound in vapor form a halide-free polymethylcyclosiloxane, whereby no halide-containing vapors from said

silicon-containing compound are emitted during the making of said non-porous body of high fused silica glass.

44. A method according to claim 43 wherein said polymethylcyclosiloxane is selected from the group consisting of octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, hexamethylcyclotrisiloxane, and mixtures thereof.

45. A method according to claim 43 wherein said compound in vapor form capable of being converted to at least one member of the group consisting of $P_2O_5$ and a metal oxide which has a metallic component selected from Group IA, IB, IIA, IIB, IIIA, IIIB, IVA, IVB, VA, and the rare earth series of the Periodic Table is a halide-containing compound.

46. In a method for making optical waveguide fibers of high purity fused silica glass doped with an oxide dopant comprising the steps of:

(a) producing a gas stream containing a silicon-containing compound in vapor form capable of being converted through thermal decomposition with oxidation or flame hydrolysis to $SiO_2$ and a compound in vapor form capable of being converted through oxidation or flame hydrolysis to at least one member of the group consisting of $P_2O_5$ and a metal oxide which has a metallic component selected from Group IA, IB, IIA, IIB, IIIA, IIIB, IVA, IVB, VA, and the rare earth series of the Periodic Table;

(b) passing said gas stream into the flame of a combustion burner to form amorphous particles of fused $SiO_2$ doped with an oxide dopant;

(c) depositing said amorphous particles onto a mandrel;

(d) consolidating said deposit of amorphous particles into a non-porous transparent glass body; and

(e) drawing waveguide fiber from said body; the improvement comprising utilizing as said silicon-containing compound in vapor form a halide-free polymethylcyclosiloxane, whereby no halide-containing vapors from said silicon-containing compound are emitted during the making of said optical waveguide fibers.

47. A method according to claim 46 wherein said polymethylcyclosiloxane is selected from the group consisting of octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, hexamethylcyclotrisiloxane, and mixtures thereof.

48. A method according to claim 46 wherein said compound in vapor form capable of being converted to at least one member of the group consisting of $P_2O_5$ and a metal oxide which has a metallic component selected from Group IA, IB, IIA, IIB, IIIA, IIIB, IVA, IVB, VA, and the rare earth series of the Periodic Table is a halide-containing compound.

49. In a method of making high purity fused silica glass through the outside vapor deposition process comprising the steps of:

(a) producing a gas stream containing a silicon-containing compound in vapor form capable of being converted through thermal decomposition with oxidation or flame hydrolysis of $SiO_2$;

(b) passing said gas stream into the flame of a combustion burner to form amorphous particles of fused $SiO_2$;

(c) depositing said amorphous particles onto a mandrel; and

(d) consolidating said deposit of amorphous particles into a non-porous, transparent glass body;

the improvement comprising utilizing as said silicon-containing compound in vapor form a halide-free polymethylcyclosiloxane, whereby no halide-containing vapors from said silicon-containing compound are emitted during the making of said high purity fused silica glass.

50. A method according to claim 49 wherein said polymethylcyclosiloxane is selected from the group consisting of octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, hexamethylcyclotrisiloxane, and mixtures thereof.

51. A method according to claim 49, wherein said polymethylcyclosiloxane is octamethylcyclotetrasiloxane.